

New Mexico Regional Test Center at Sandia National Laboratories

The New Mexico Regional Test Center (RTC) has two photovoltaic (PV) deployment areas available for RTC systems. The first is intended for larger sized systems (> 50 kW) and the second for smaller systems (5–50 kW).

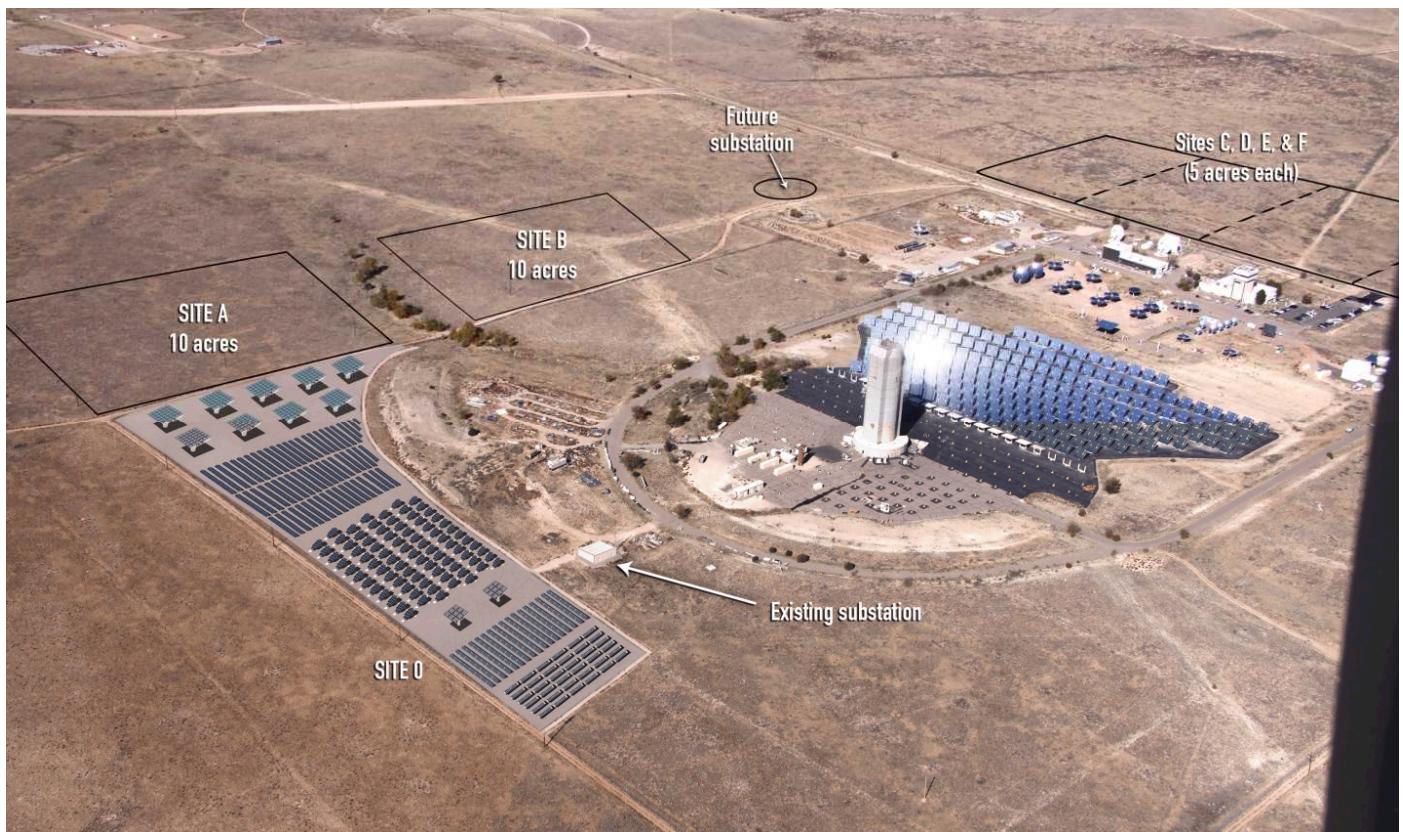
Large System Site (NSTTF)

Located at the National Solar Thermal Test Facility (NSTTF) on Kirtland Air Force Base in Albuquerque, New Mexico, and managed by Sandia National Laboratories, this site represents a hot, arid climate.

The site plan is flexible—allowing the RTC Team to combine or split lots to accommodate partners testing criteria. The initial eight-acre site (Site 0) has four 300 kVA transformers with a total 1.2 MW DC capacity (see artist's rendition). Expansion into Site A is addressed in the preliminary plans. Expansion into Sites B–F will accommodate additional partners interested in

making use of the site, as needed. The RTCs leverage Sandia expertise in PV testing, research, performance modeling, and reliability. The Sandia-based RTC supports 1.2 MW of PV plus baseline test equipment, labor, and data analysis.

Together, the RTCs will demonstrate whether PV systems are sufficiently understood to project performance/reliability in other system configurations and environments. The RTCs will establish data ownership and transparency guidelines to encourage manufacturer participation.



Small System Site

Located at Sandia's Photovoltaic Systems

Evaluation Laboratory (PSEL), this second site will be available in the Fall of 2014 to host smaller PV systems in the size range of 5–50 kW. This site is

colocated with Sandia's indoor and outdoor PV module and system laboratories.



Artist's rendition of RTC systems at the PV Systems Evaluation Laboratory at Sandia National Laboratories in Albuquerque, NM.

Field Deployments:

- Racks for latitude tilt (south-facing) for 5–40 kW systems
- Space for ground mounted systems for up to 200 kW
- Field IV monitoring

RTC meteorological station including:

- Global horizontal irradiance
- Direct normal irradiance
- Diffuse horizontal irradiance
- Precipitation
- Temperature
- Spectroradiometer

Potential to leverage ongoing research projects to better understand module, inverter, and system performance

- Sandia PV array performance model calibration and validation
- Outdoor angle of incidence measurement and modeling
- Outdoor spectrometer
- Inverter efficiency measurements



**For more information,
please contact:**

Joshua Stein

Sandia National Laboratories

E-mail: jsstein@sandia.gov

Website: rtc.sandia.gov